

REMARKS

Claims 27 and 29-48 are pending and stand ready for further action on the merits. Support for the amendment to claim 27 can be found in cancelled claim 28 and in claim 34. Claim 29 has been amended so as not to depend on a cancelled claim. Claim 34 has been amended for clarity. Support for new claim 48 can be found in claims 27, 28 and 34. No new matter has been added by way of the above Amendment.

PRIOR ART BASED ISSUES

The following prior art based rejections are pending:

1. Claims 27, 28, 30-32 and 35 are again rejected under 35 U.S.C. 102(b) as being clearly anticipated by Meitzner et al. or Vulliez-Sermet et al.
2. Claims 27, 28, 30-32 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meitzner et al. or Vulliez-Sermet et al.
3. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Meitzner et al. or Vulliez-Sermet et al, particularly in view of Haus et al. U.S. Patent 3,275,337.
4. Claim 34 is again rejected under 35 U.S.C. 103(a) as being unpatentable over Vulliez-Sermet et al., in view of Schwab et al.

Applicants respectfully traverse each of the references.

Advantages of the Present Invention

The present invention is drawn to a novel macroreticular polymer, the process for its preparation and the use of the macroreticular polymer as an adsorbent.

The release of organic solvents and oils into bodies of water such as rivers and oceans has been on the increase. As the concentration of these pollutants increases, the delicate balance in ecosystems is adversely affected. This is a problem which requires a novel approach. The novel inventive macroreticular polymer is designed to address this problem as an adsorbant of organic solvents and oil.

One possible approach is to load the macroreticular polymers into a net and suspend the loaded net in polluted water. The net is swept over the polluted water and the macroreticular polymers absorb the pollutants therefrom.

An important aspect of the ability for the inventive macroreticular polymer to absorb effectively, is the type of polymer and the porosity of the macroreticular product. As can be seen from the experimental evidence in the present specification, the fact that the macroreticular product has a porosity of greater than 1.27×10^4 cm³/cm³; and is prepared from polystyrene, SBS, elastomer, SEB or high content elastomer SEB, allows for the inventive product to absorb organic solvents

and will from agents and friends.

Applicants have provided the above explanation to highlight the features of the present invention which patently distinguish over the cited references.

Cited References

Applicants respectfully submit that the presently claimed macroreticular product is not made obvious by the cited references, since the cited references fail to teach or suggest: (1) a macroreticular product having a porosity of greater than 0.279 cm/gm; and/or (2) a macroreticular product which is made from a polymer crosslinked using 1,4-dichloromethyl-2,5-dimethylbenzene as the crosslinking agent.

With regard to the porosity of the inventive product, this feature was originally described in claim 34. However, the Examiner has been completely silent with regard to how the references teach or suggest this feature.

Applicants respectfully submit that the inventive products are patentable over the cited art, since the cited art fails to teach or suggest that the macroreticular products have a porosity of greater than 0.279 cm/gm. Furthermore, Applicants take the position that the products of the cited art do not inherently¹ have a porosity of greater than 0.279 cm/gm.

With regard to the specific crosslinking agent recited in claim 27, the Examiner states:

...it would have been obvious to one of ordinary skill in the art at the time the invention was made to employ 1,4-dichloromethyl-2,5-dimethylbenzene as the crosslinking agent in either of the above noted references, since this material is a well known crosslinking agent. Since applicant has failed to challenge the statement that 1,4-dichloromethyl-2,5-dimethylbenzene is a known crosslinking agent, it appears that this assertion has been conceded.

Contrary to the Examiner's assertion, Applicants do not concede that this crosslinking agent is well known in the art.

As the MPEP directs, all the claim limitations must be taught or suggested by the prior art to establish a *prima facie* case of anticipation or obviousness. See MPEP §§ 2131 and 2143.03. Since the cited references fail to teach or suggest that

¹ The Examiner is respectfully reminded that to support a rejection based upon inherency, an Examiner must provide factual and technical grounds establishing that the inherent feature **necessarily** flows from the teachings of the prior art. See *Ex parte Long*, 17 USPQ2d 1461, 55 F.2d 1461, 35-10, 212 USPQ 63 (1982), 1982-1-1, holding that inherency **must** flow as a necessary conclusion from the prior art, not simply as a possibility.

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1,4-dichloro-2,5-bis(4-ethylphenyl)-2,5-dimethylbenzene is used as a crosslinking agent, a prima facie case of anticipation or obviousness cannot be said to exist. As such, withdrawal of the rejections are respectfully requested.

CONCLUSION

In view of the above comments and amendments, Applicants respectfully submit that the claims are in condition for allowance. A Notice to such effect is earnestly solicited.

If the Examiner has any questions concerning this application, he is requested to contact Garth M. Dahlen, Reg. No. 43,575, at (703) 205-8000 in the Washington, D.C. area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees

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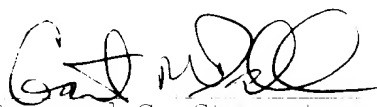
required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17;
particularly, extension of time fees.

Respectfully submitted,

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By:

for


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RCS/GMD/bsh

Attachment: Version with Markings to Show Changes Made

VERSION WITH MARKING TO SHOW CHANGES MADE

IN THE CLAIMS:

Claim 24 has been cancelled.

The claims have been amended as follows:

Claim 27. (Amended) A macroreticular product having a high potential to absorb organic solvents, wherein the product is formed by cross-linking a polymer so that the [organic solvents are] macroreticular product can molecularly [enclosed and] enclose the organic solvent and the organic solvent adheres [externally adhered] adhere to the [product] macroreticular product externally,

wherein the polymer is at least one selected from the group consisting of polystyrene, SEBS, elastomeric SBR and hydrogenated SBR, the crosslinking is performed with 1,4-dichloromethyl-2,5-dimethylbenzene as a crosslinking agent, and the product has a porosity of greater than 0.279 cm³/g.

Claim 29. (Amended) The product according to claim [28] 27, wherein the elastomeric SBR has 10%, 20% and 40% styrene.

Claim 34. (Amended) The product according to claim 29, wherein the polymer is SEBS and crosslinked with 1,4-dichloromethyl-2,5-

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dimethylenzene : SEBS is created that 4%, so that the product
has a density of not less than 1.215 gm/cm³.

Claim 43 has been added.